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THE ROOK (CORVUS FRUGILEGUS L, 1758) IN THE NESTING COMMUNITY OF THE HERONRY AT SASÉR

I. STERBETZ

Hungarian Ornithological Institute, Budapest

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Abstract

The paper is showing the nesting stock of the heronry in the nature conservation area at Sasér, in the period between 1948 and 1976. The evaluation of these statistics is dealing with the damaging possibilities of the concurrence of the rook. It is established that the fluctuation of the population of the heron species is connected first of all to the uncertainty of the alimentary conditions. Owing to the aggressivity of rooks, the heron species take their nesting sites here one month later than normally, when the concurrent species already left the area, together with its progeny.

Introduction

In the years following World War II the environment of the wooded steppe in Eastern Europe changed radically. By the expansion of the agricultural areas the rooks, being indigenous there in immeasurable numbers, were also hard hit, in so far as the nesting demands of this species were no more satisfied by the planted forest belts replacing the natural grove-woods. It may be explained by this that the flights of rooks, straying towards the west in the winter period, remain behind in the Carpathian basin in larger and larger numbers after Spring arrived. This phenomenon is equally alarming from the points of view of agriculture, wild-fowl-economy, and nature conservation. The forest types suitable for nesting grow less here too, and rooks are constrained to take part in more and more populous colonies. The environment of their nesting site can, therefore, provide for their alimentary basis with more and more difficulty. In the mechanized-chemicalized agricultural environment the alimentary picture of the rook, known from earlier years, has also changed because the presence of the earlier given insects, small mammals, and weed-seeds is eliminated by the up-to-date plant protection. The rook is constrained, therefore, to become raptorial and covers its alimentary demands more and more with bird's eggs, young animals, or the mass of the seeds of cultivated plants. This vigourous, sociable species of large body damages the other animals, multiplying or feeding in the same living-space, by its aggressivity. This problem arose in case of the heronry in the reservation at Sasér, in the vicinity of Hódmezővásárhely, the nesting community of which was rook-free after 1948, but it has been constrained since 1952, already for 25 years, to share its place with a rook colony consisting of more than a thousand pairs.

Exercise and methods

It is demanded by the tratment of the values of the nature conservation area at Sasér, to keep there in evidence the stock of nesting birds annually, as exactly as possible. An explanation of the fluctuations observed during surveys is demanded by the practical protection. By means of the Tables published, I want partly to give a summary of three decades of the heronry of international reputation and, on the other hand, I endeavour to evaluate the continuous fluctuations in the stock by reason of my experiences.

The heronry at Sasér has come about in a reservation of 70 ha, formed from the flood-plain of the Tisza, in a 70 to 80 years old forest stand of *Salicetum albae fragilis*. The description and fauna of the area protected, as well as a list of papers relating to these, are specified in my works (STERBETZ 1972, 1975). The stock of herons nesting here have been counted yearly by me and co-workers, since we recognized this area in 1948. The spring counting of the nests hidden among the leafy boughs 20 m high is extremely difficult. And after the fall of the leaves it is only possible in the relation of rooks because the nests of the different kinds of herons are easily confounded. I was trying, therefore, to give an acceptable picture by summarizing the results of the different methods. The species represented but by a single pair or but a few pairs, could be counted exactly. A most practical way of taking into account the species of heron forming populous colonies was to count the old birds when they started to feed in the small hours of the morning, in the period before letting fly their youngs. This counting can be solved with great certainty from the dams on the right and left sides of the Tisza. 50 per cent of the numbers of the old birds seen mean the nesting birds. The recognition of the rook settlements, estimated in the different years to be 2 to 3 thousand pairs, takes place in the leafless winter season, by takint into account the nests uninhabited. The rook-nests can at most confused with the nest of Ardea cinerea. The low number of these, however, does not influence too much the result of large numbers. Working with methods like this, a 3 to 5 per cent source of error was made probable by comparing the final numbers stated by the single observers.

Results

In Table 1 the statistics of rookfree settlements is shown, in Table 2 that of the settlements held in common with rooks. It appears from the columns of figures that the population fluctuation of Corvidae, hatching at Sasér systematically, equally manifested itself before and during the presence of rooks. Its exclusive explanation is, therefore, by no means the aggressivity of the rook colony. The always unstable food conditions, however, in the environment of heronry can be, all the more, paralleled with it. In the nineteen-fifties the rice-plantations at Hódmezővásárhely generally influenced nesting still advantageously. Later on, however, owing to the

Table 1. *Development of the heronry at Sasér in the years 1948—51*

Year	C. frugilegus	E. garzetta	A. rallo-ides	N. nycti-corax	A. cinerea	P. falci-nellus	P. carbo	H. albi-cilla
1948	—	50	5	300	200	—	—	1
1949	—	163	12	300	150	—	—	1
1950	—	48	20	200	100	—	—	—
1951	—	50	24	200	120	—	—	—

areal decrease in the rice-fields rich in food and the plant protection in the remainders of those, the importance of this feeding-stuff basis diminished very much. The food supply of the Tisza flood-plain is regulated by the casual floods. The present-day arrangement of the terrain of flood-plain, resulting also in the disappearance of the pools in borrowing pits and other seasonal waters, similarly to rice-fields, makes also here more and more uncertain, how to provide for food. The alternation of the years rich and poor in food is also reflected by the fluctuating population conditions

of the heronry. All this is particularly supported by the years 1968 and 1971, when in a distance of about 3 to 4 km from Sasér, to a stretch known under the name meadow "Barci-rét" in the flood-plain on the left riverside, from the earlier stock of the Sasér about 50 pairs of *Egretta garzetta,* the same number of *Ardeola ralloides* and several *Nycticorax nycticorax* moved to the seductive life-space of the inundated areas. After ceasing of the seasonal water-level, the birds again nested in the settlement at Sasér next year.

The successful multiplication of the corvids is nonetheless severely damaged by the aggressivity of the populous rook settlement. In the source of the altercations for the nesting sites, later on for robbings of eggs and youngs, the rooks attacking always in large numbers have proved stronger. A result of this continuous concurrence was that 4 to 5 years after the settlement of rooks, *Egretta garzetta,* Ardeola ralloides, and *Nyticorax nycticorax* consistently begin to nest here one month later than in the other heronries of the country. This time, the young rooks are already well-developed, a number of them had already left the nest and the nesting sites gradually left by rooks can be occupied undisturbedly by the small corvids of weaker constitution. The multiplication cycle of the vigorous *Ardea cinerea* is, on the other hand, hardly noticeably influenced by the gaining ground of rooks.

Table 2. *The heronry at Sasér in a life-space common with the rook*

Year:	C. frugilegus	E. garzetta	A. ralloides	N. nycticorax	A. cinerea	P. falcinellus	Ph. carbo	H. albicilla
1952	1500	96	24	200	100	—	—	—
1953	2000	78	40	200	40	—	—	—
1954	2000	80	32	80	30	—	—	1
1955	2000	150	11	120	25	—	—	—
1956	2000	100	15	70	20	—	—	—
1957	2000	80	20	170	30	—	—	1
1958	2000	120	22	200	30	—	—	—
1959	3000	52	36	60	20	—	—	—
1960	3000	60	25	100	50			
1961	3000	60	52	100	20	—	—	—
1962	3000	70	40	150	20	1	—	1
1963	3000	60	20	100	20	—	—	—
1964	3000	60	10	150	40	—	9	—
1965	3000	70	20	70	25	—	4	—
1966	3000	70	5	30	15	—	3	—
1967	3000	70	10	30	50	—	—	—
1968	3000	30	20	30	30	—	—	—
1969	3000	50	20	25	30	—	—	—
1970	3000	15	2	5	50	—	—	—
1971	500	4	4	20	20	—	—	—
1972	400	25	15	30	25	—	—	—
1973	500	40	15	80	20	—	—	—
1974	400	100	30	60	80	—	—	—
1975	300	40	10	50	40	—	—	—
1976	100	30	2	120	30	—	—	—

Note: The numbers published for the several species mean the numbers of nesting pairs, in case of both Tables.

Haliaetus albicilla, registered as a casual nester in the heronry, hatched on some occasions at Sasér and in the near-by flood-plain, using alternating nests (in "Barci-rét", at Körtvélyes). Its final absence must have been induced by the killing off of

the nesting pair, as a result of the lack of discipline of hunters. The presence of Phalacrocorax carbo for three years is explained by the disturbance connected with the necessary stock reduction of its only nesting settlement in Hungary, at Little Balaton, and by transitional dispersion taking place for that reason. *Plegadis falcinellus* is a rhapsodical nester in the whole of Europe.

Since 1971, the rook stock at Sasér has been reduced suddenly to its one-sixth part and, since then, too, it has been continuously decreasing. It deserves attention that ten years ago we already tried on a few occasions to disperse the settlement in early spring with sporting-guns and other alarm metods-always without any result. Now, however, there followed under natural conditions the state of some boredom of the environment. And that is very encouraging in respect of the future of the smaller corvids that have been damaged by some permanent stress effects.

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